

Growing More Vegetables

Vegetable Gardening In Utah

Growing More Vegetables

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Thanksgiving Gardens

Growing More Vegetables

- **Home Vegetable Growing Is Increasing Throughout The United States**



Growing More Vegetables

- **This Interest Is Due To:**
 - **The Increasing Cost Of Fresh Produce**
 - **A Desire For Healthy, Fresh Vegetables**
 - **A Recreational Activity For The Family**
 - **Fresh Material For Freezing Or Canning**

Growing More Vegetables

- **Garden-grown Vegetables Can Be Picked At The Best Time For Flavor And Texture**



Growing More Vegetables

- **Gardening Teaches New Skills to Children**
- **Gardening Increases Our Appreciation For Nature**
- **It Is Family Activity**



Growing More Vegetables

- **Vegetable Add Variety To Landscapes By Providing Colors And Textures**



Growing More Vegetables

- **Gardens Supply Produce To Feed Families And To Share With Others**



Growing More Vegetables

- **Classification**

- **Vegetable Crops Are Classified By:**

- **Botanical Relationships**

- **Climatic And Cultural Requirements**

- **Food Uses**

Growing More Vegetables

- **Botanical**

- **Vegetables Are Classified Into**

- **Families**

- **Genus**

- **Species**

- **Botanical Variety**

Growing More Vegetables

- **In The Cruciferae (Mustard) Family**
 - **We Have Brassica (Genus)**
 - **oleracea (Species)**
 - **Gemmifera (Variety)**
 - **Called Brussels Sprouts**



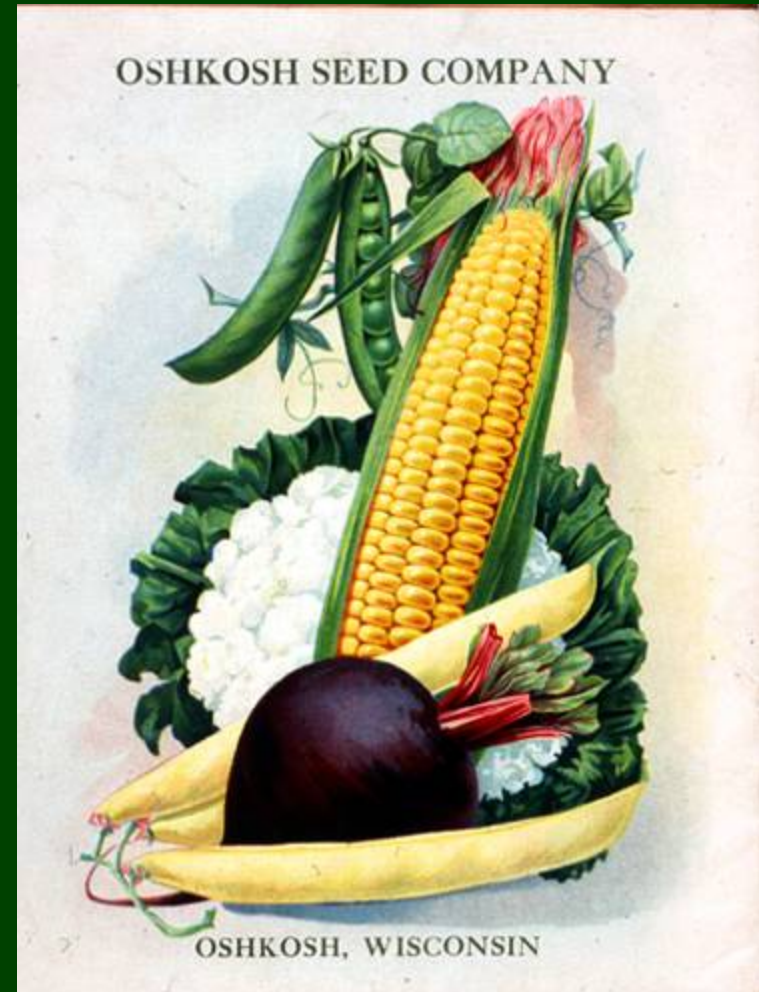
Growing More Vegetables

- **Hardiness**
 - **Vegetables Vary In Climatic Requirements Needed For Best Growth**



Growing More Vegetables

- **Vegetables Are Classified According To Temperature Requirements**



Growing More Vegetables

- **Cool Season Vegetables Can Withstand Light Frosts With Minimal Damage and Are Divided Into Hardy And Semi-hardy Types**



Growing More Vegetables

- **Cool Season Vegetables Will Germinate At Minimum Temperatures Of 40°F With An Optimum Temperature Of 65 To 75°F**

Growing More Vegetables

- **Plant Growth Slows for Cool Season Vegetables in the Summer Heat**



Growing More Vegetables

- **Warm Season Crops Grow Best With Warm Temperatures And Are Divided Into Tender Or Very Tender Types**



Growing More Vegetables

- **When Exposed To Cool Temperatures, Warm Season Crops May Stop Growing If Exposed To Frost**



Growing More Vegetables

- **Tender Vegetables Are Less Affected By Cool Temperatures Than The Very Tender Vegetables**



Growing More Vegetables

- **Warm Season Vegetables Require Minimum Temperatures Of 55°F And Optimum Temperatures Of 75 To 85°F For Best Germination**

Growing More Vegetables

- **Even In These Broad Classifications Of Cool And Warm, There Are Differences In Ability To Withstand Freezing Or Excessively Warm Temperatures**

Growing More Vegetables

- **Site Selection**
 - **Successful Vegetable Gardens Requires:**
 - **Proper Site Selection**
 - **A Good Production Plan**
 - **Proper Plant Care**

Growing More Vegetables

- **Selecting The Proper Site For A Garden Is The First Step To Successful Production**



Growing More Vegetables

- **Location**
 - **Most Vegetables Require At Least 6 Hours Of Full Sunlight To Be Productive**



Growing More Vegetables

- **Several Smaller Areas In The Landscape Can Be Utilized For Vegetables**



Growing More Vegetables

- **These Could Include Small Areas Near The Kitchen Where Herbs And Rapid Growing Salad Vegetables**



Growing More Vegetables

- **Vegetables Are Now Being Integrated Into Flower Gardens To Accent And Highlight Areas**



Growing More Vegetables

- **Container Gardens Utilize Small Amounts Of Area And Can Be Attractive Yet Functional When Given Proper Care**



Growing More Vegetables

- **Vegetables Need Not Be Located In The Back Yard Any More, So Use Your Imagination When Planning Your Whole Yard**



Growing More Vegetables

- **Vegetables Vary In The Amount Of Space They Require For Maximizing Productivity**



Growing More Vegetables

- **Chives, Parsley, And Radishes Can Be Grown In Containers Or Near The Kitchen Door, Squash, Melons, And Sweet Corn Are Much More Productive In Larger Areas**

Growing More Vegetables

- **Vegetables Vary In Their Growth Habits, Production Period, And Size; Spend Some Time Organizing Your Garden to Maximize Productivity**

Growing More Vegetables

- **Ask Yourself These Questions:**
 - **Where Does The Sun Rise And Set In Relation To My Garden?**
 - **What Are The Growth Habits Of My Favorite Vegetables?**
 - **Where Should I Locate Them To Best Utilize The Sun And Minimize Shading Of Other Vegetables?**
 - **Which Vegetables Does My Family Like To Eat?**

Growing More Vegetables

- **Ask Yourself These Questions:**
 - **How Much Should I Plant?**
 - **What Will I Do With The Excess?**
 - **Can I Utilize Some Areas In The Garden More Than Once And Increase My Productivity?**
 - **What Varieties Should I Grow?**

Growing More Vegetables

- **By Following The Plan, Land In The Garden Is Used Efficiently**



Growing More Vegetables

- **Space-saving And Yield-boosting Techniques:**
 - **Companion Planting**
 - **Succession Planting**
 - **Inter-cropping / Second Cropping**

Growing More Vegetables

- **Try To Be Accurate With The Plan. Measure Your Garden Space, And Then Sketch It Out On Graph Paper To Match The Area**

Growing More Vegetables

- **Identify The Areas On The Plans In Accordance With The Likes Of The Family, The Desired Quantity Of Product, Areas For Second Cropping, And Permanent Sites For Perennial Vegetables**

Growing More Vegetables

- **Group The Vegetables In Your Plan According To How They Tolerate Cool Or Warm Growing Temperatures. This Helps Simplify Plant Care And Should Allow For A Second Crop**

Growing More Vegetables

- **Winter Cropping Means Some Vegetables Are Doubled Up In Order To Increase The Area Productivity**

Growing More Vegetables

- **Grow Carrots And Radishes In The Same Row; Plant Onions Between Cabbages, Peppers And Lettuce. The Faster Growing Vegetables (Radishes, Cabbage, And Lettuce) Mature And Are Harvested Well Before The Others Need Extra Space**

Growing More Vegetables

- **Succession Planting Includes Scheduling Plantings So That When An Early Yielding Vegetable Is Harvested, A Second Crop Of Something Is Ready To Occupy The Space**

Growing More Vegetables

- **Early Peas Can Be Followed By Corn Or Beans; Early Cabbage Can Be Followed By Fall Radishes Or Lettuce**

Growing More Vegetables

- **Tall Vegetables Like Corn And Pole Beans Should Be Located On The North Side Of The Garden To Minimize Shading Of Smaller Vegetables**

Growing More Vegetables

- **Finally, The Garden Plan Is A Good Start For Record Keeping During The Year**

Growing More Vegetables

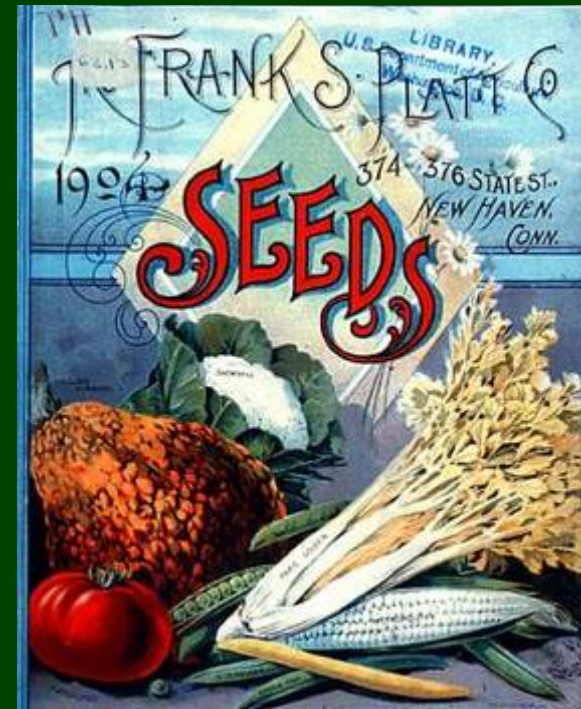
- **Record Keeping Is A Useful Method For Future Planning. It Should Contain All Aspects That Go Into The Garden**

Growing More Vegetables

- How Much Fertilizer Was Used?**
- What Areas Were Planted With What Varieties?**
- When Did Planting And Harvest Occur?**
- How Much Produce Was Harvested?**
- How Did That New Variety Do?**
- What Problems Occurred?**
- How Were They Corrected?**

Growing More Vegetables

- **Seed Catalogs Are Valuable Sources Of Information. They List Tried And Proven Varieties As Well As The Latest Releases From Plant Breeders**



Growing More Vegetables

- **They Supply Information On Planting Dates And Spacing Needs, Pest And Disease Resistance, And Climatic Requirements. Many Are Free For The Asking**

Growing More Vegetables

- **Subscribe To Any Of The Many Gardening Magazines Available. They Provide Information On New Production Techniques, List Sources Of New Materials And Varieties, As Well As Increase Your Overall Gardening Knowledge**

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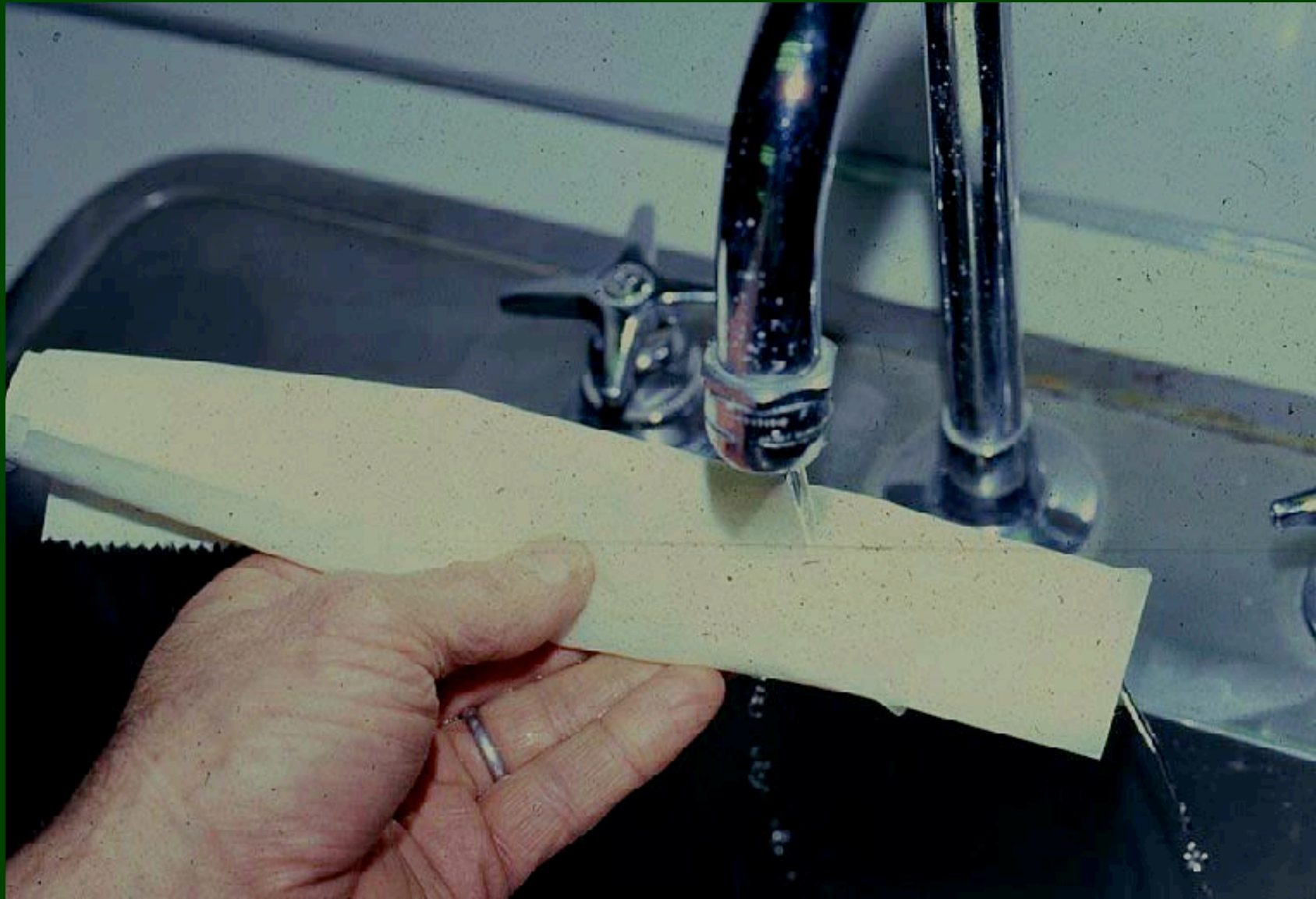
- **Go To Your Local Library Or County Extension Office. Many Have Good Books Or Tips On Gardening Techniques Or The Latest In Technological Achievements**

Growing More Vegetables

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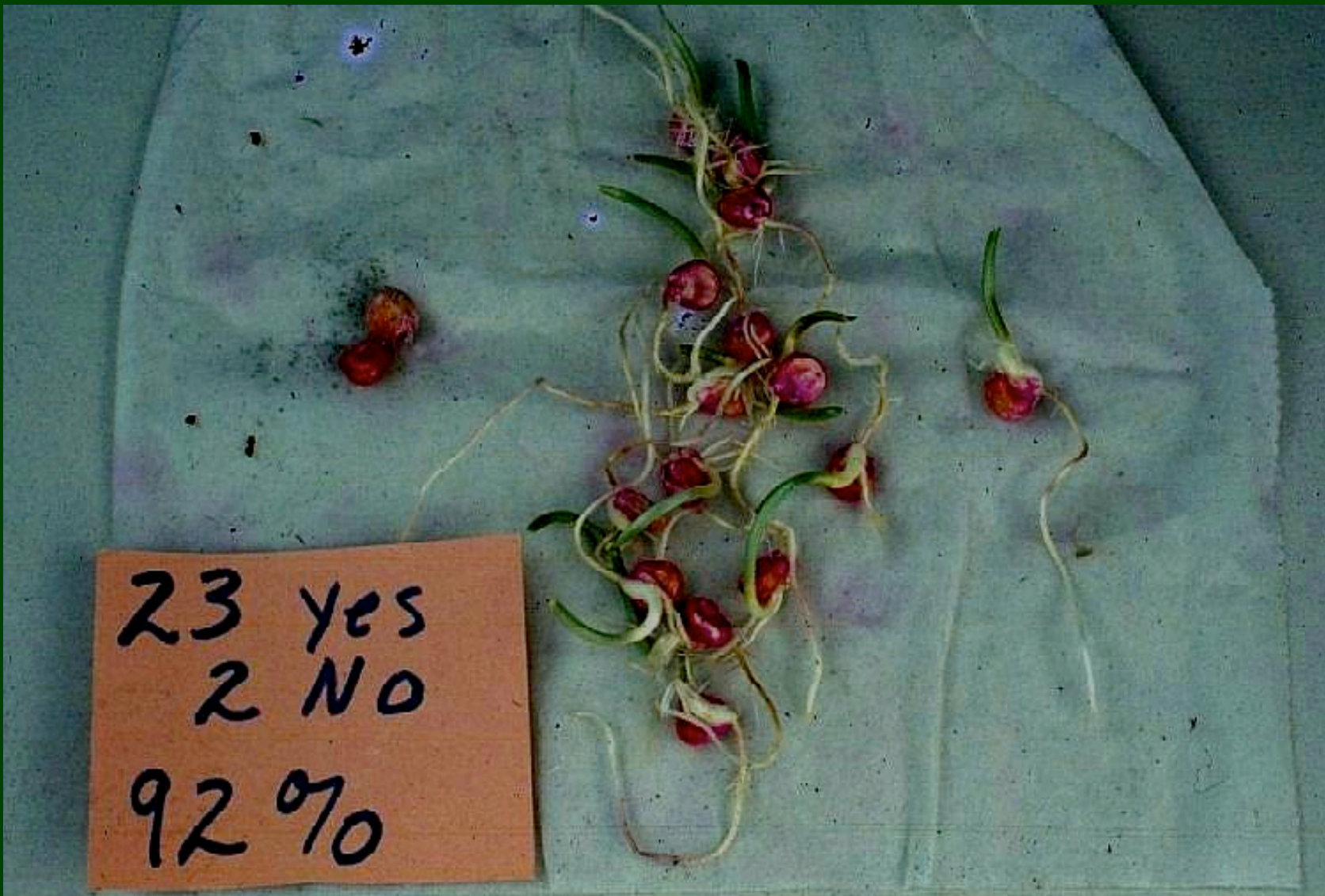
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Growing More Vegetables



23 yes
2 NO
92%

Growing More Vegetables

- **High Quality Vegetables Depend On Tender, Succulent Growth**



Growing More Vegetables

- **This Is Best Achieved When Soils Can Supply Available Nutrients And Water**



Growing More Vegetables

- **Soils That Have Low Nutritional Levels Or Poor Water Holding Capacity Can Limit Vegetable Growth**

Growing More Vegetables

- **Many Vegetables Have Shallow Root Systems, Making Them Susceptible To Water And Nutrient Sh**



Growing More Vegetables

- **Soil Type Can Significantly Influence Vegetable Growth**



Growing More Vegetables

- **When Early Season Production Is Desired, Sandy And Sandy Loam Soils Are Best. This Is Because Sandy Soils Warm Up Quickly And Are Well Aerated**
- **Lighter Soils Are Best For Spring Production And Fast-maturing Vegetables**

Growing More Vegetables

- **Where High Yields Are Required Rather Than Early Harvest, Silt Loams And Clay Soils Are Most Productive Because of the Soils High Water Holding Capacity And Nutrient Availability**

Growing More Vegetables

- **Heavier Soils Are Difficult To Till, Slow To Warm Up In The Spring, And Poorly Aerated When Wet. These Soil Types Are Better For Later Season Production And Vegetables That Require A Long Time To Mature**

Growing More Vegetables

- **Regardless Of The Soil Type, Garden Areas Should Be Free Draining With Few Obstructions (Hard Pans, Shallow Soils, High Water Table, Excessive Rocks) That Limit Root Development And Tillage Operations**

Growing More Vegetables

- **One Major Limitation To Vegetable Production In Utah Is The Low Organic Matter Content Of Our Soils**



Growing More Vegetables

- **Organic Matter Increases Water And Nutrient Holding Capacity And Improves Soil Aeration And Soil Structure. With Structural Changes, Roots Grow Better, Water Is Absorbed Faster And Aeration Is Improved**

Growing More Vegetables

- **Organic Matter
Helps Hold Soil
Particles
Together
Reducing Soil
Erosion, Nutrient
Leaching And
Water Runoff**



Growing More Vegetables

- **Commercially Available Fertilizers Can Supply Much Of The Nutritional Needs Of The Plant**



Growing More Vegetables

- **Poor Soils Can Be Improved In Several Ways. These Include Hauling In Topsoil, Adding Manure Or Compost For Organic Matter, Or By Growing Green Manure To Add Nutrients And Organic Matter To The Soil**

Growing More Vegetables

- **Green Manure Improve The Subsoil By Penetrating Compacted Layers, Adding Organic Matter To Subsoils, Improving Mineral Nutrient Availability, Transferring Nutrients To The Top Soil, Favoring Bacterial Growth, And Helping Reduce Erosion**

Growing More Vegetables

- **Legumes Are Often Used As Green Manures Because They Add Atmospheric Nitrogen To The Soil. Grasses Such As Rye And Oats Are Also Used And Have All The Benefits Of Legumes Except The Nitrogen-fixing Capabilities**

Growing More Vegetables

- **Decomposed Manure Make a Good Additions To The Garden By Supplying Organic Matter**

Growing More Vegetables

- **Manure With A Lot Of Straw or Shavings Is Slow To Decompose And Ties Up Needed Nutrients That May Limit Plant Growth**

Growing More Vegetables

- **Manure Can Introduce Weed Seeds To The Garden. Add Fresh Manure To The Garden In The Fall And Well-rotted Manure In The Spring.**

Growing More Vegetables

- **Most Vegetables Vary In Their Nutrient Requirements**

Growing More Vegetables

- **The Aim Of The Fertilizer Program Is To Supply Adequate Levels Of The Important Nutrients So That Plant Growth Is Not Limited**

Growing More Vegetables

- **Of All The Elements Needed By The Plant, Nitrogen, Phosphorous, And Potassium Are Most Important For Maintaining Good Growth**

Growing More Vegetables

- **Nitrogen Is Generally The Most Limiting To Plant Growth. However, Excess Nitrogen Promotes Vegetative Growth At The Expense Of Fruit Development**

Growing More Vegetables

- **Phosphorus Is Necessary For Root, Fruit, And Seed Development. Generally, High Concentrations Of Phosphorus Are Needed In Close Proximity To The Plant For Best Performance**

Growing More Vegetables

- **Potassium Is Important For Plant Vigor, For Improving Root, Stem, And Fruit Growth, As Well As For Increasing Low Temperature Tolerances**

Growing More Vegetables

- **There Is No Magic Formula For Determining The Nutrient Needs Of The Garden. The Best Way To Determine Nutritional Needs Is To Have The Soil Tested at A Reliable Soil Testing Laboratory**

Growing More Vegetables

- **Since Nitrogen Is Easily Leached From The Soil And Is In Greatest Demand By The Plant, Several Small Applications Can Be Needed To Maintain Good Plant Growth Throughout The Year**

Growing More Vegetables

- **High Fertilizer Levels Near The Vegetable Seed Will Adversely Affect Germination And Seedling Growth**

Growing More Vegetables

- **Light, Sandy Soils Are Prone To Leaching Of Nitrogen When Watered In Excess, Making The Nitrogen Unavailable To The Plant Roots**

Growing More Vegetables

- **Phosphorous Is Not Mobile In Soils and Should Always Be Applied Prior To Planting.**
- **Incorporation Into The Root Zone Is Necessary So Plants Have Access To It.**

Growing More Vegetables

- **Potassium May Be Applied To The Soil Before Or After Planting. Generally, Only One Application Of Phosphorus And Potassium Is Needed Per Crop Or Year**

Growing More Vegetables

- **Complete Fertilizers Are Generally Broadcast Or Banded In The Garden Prior To Planting**



Growing More Vegetables

- **When Banding, It Is Important Not To Place The Fertilizer Too Close To The Seed Or Transplant. The High Salt Content Of The Fertilizer Can Be Injurious To The Germinating Seed Or Damage The New Roots On The Transplant**

Growing More Vegetables

- **In Most Cases, Fertilizers Should Be Banded 2 To 3 Inches To The Side And 1 To 2 Inches Below The Seeding Or Planting Depth**



Growing More Vegetables

- **Side Dressing Fertilizers Next To The Plant Supplies The Extra Nutrients Needed To Mature A Long Growing Crop**

Growing More Vegetables

- **In Poor Soils, Several Side Dressings May Be Required. These Applications Are Often Banded Next To The Plants After 6 To 12 Weeks Of Growth**

Growing More Vegetables

- **Vegetables Generally Grow Best When Soils Are Loosened 6 To 8 Inches Deep**



Growing More Vegetables

- **Some Care Is Needed With Soils That Have Limited Amounts Of Topsoil**
- **Exposing Too Much Of The Subsoil Can Adversely Influence Nutrient Availability, Water-holding Capacity, And Soil Structure**

Growing More Vegetables

- **The Primary Tillage Operation (Plowing, Deep Digging) Incorporates Coarse Organic Matter Where Decomposing Microbes Can Break It Down. There Is Some Debate About The Merits Of Fall Versus Spring Primary Tillage Operations**

Growing More Vegetables

- **On Flat, Non-erosive Soils, Fall Plowing Exposes The Soil To The Wetting, Drying, And Freezing Winter Conditions. Fall Tilling:**
 - **Helps Improve Soil Structure**
 - **Exposes Insect Pests To Lethal Weather And Predators**
 - **Starts Organic Matter Decomposition**
 - **Makes Soil Easier To Work In The Spring**

Growing More Vegetables

- **Several Types Of Seedbeds Can Be Used For Successful Gardening**

Growing More Vegetables

- **The Easiest To Make Is A Flat Bed. The Flat Bed Is Raked Smooth After Tilling And Before Planting Seeds In The Desired Area**

Growing More Vegetables

- **With Shallow Soils, Raised Beds Increase The Depth Of Topsoil The Plant Can Grow In**



Growing More Vegetables

- **Raised Beds Require More Work To Make, Warm Up Faster In The Spring, But Tend To Dry Out Faster In The Summer**



Growing More Vegetables

- **Raised Beds Generally Make The Garden More Productive And Easier To Cultivate And Harvest**



Growing More Vegetables

- **Sunken Beds Have Also Been Used In Areas Where Excessively High Soil Temperatures Occur Or Soil Mounding Around The Plant Is Needed**

Growing More Vegetables

- **Soils Stay Cooler In The Trench,
And Deeper Rooting Is Encouraged**

Growing More Vegetables

- **Vegetables Vary Greatly With Regard to Their Climatic Requirements. Each Must Be Planted at a Time That Encourages Successful Development and Maturity Within the Constraints of the Growing Area**

Growing More Vegetables

- **Successful Gardening Requires Some Understanding of Which Method of Establishment Will Be Most Successful**

Growing More Vegetables

- **Most Vegetables Are Either Seeded Directly Where They Will Grow, or Grown From Transplants Purchased Locally or Raised by the Gardener**

Growing More Vegetables

- **If the Garden Site Was Fall Plowed, Only Minimal Tillage Needs to Be Done to Prepare the Seed Bed**

Growing More Vegetables

- **Careful Consideration of the Soil Moisture Content Is Required to Produce a Fine, Clod-free Area to Accommodate the Seed**

Growing More Vegetables

- **When Soils Are Too Wet, Seed Bed Preparation Is Difficult and Can Create an Environment Unfavorable for Good Seed Germination**

Growing More Vegetables

- **This Is Especially True for Those Vegetables We Sow Very Early in the Spring Like Peas and Onions**



Growing More Vegetables

- **Early Tillage Helps Incorporate the Fertilizer Needed for Good Plant Growth. There Are No Good Guidelines for How Much Fertilizer Should Be Added to the Garden Unless a Soil Test Is Taken**

Growing More Vegetables

- **While Straight Rows Make Attractive Gardens Which Are Easier to Seed, They Don't Always Utilize the Limited Space of the Garden Most Efficiently**

Growing More Vegetables

- **Straight Rows**
Are Easier to
Plant and Allow
Tillers to Be Used
for Later Weed
Control



Growing More Vegetables

- **Other Methods of Sowing Include Broadcast Planting, Hilling, and Intensive Spacing. All of These Can Be Incorporated Into the Garden**
- **Row Planting Methods Are the Most Common**

Growing More Vegetables

- **After Marking the Row, a Narrow V-shaped Trench Is Made for the Seeds. Depth Control in the Trench Is Important and Should Be Tailored for the Specific Vegetable**

Growing More Vegetables

- **A General Rule Is to Sow Seeds to a Depth of 2 to 3 Times the Diameter of the Seed. Seeds Should Not Be Planted Too Thickly or Crowding Will Occur As the Plants Mature**

Growing More Vegetables

- **Most Seed
Packets Give
Generic Planting
Depths and Plant
and Row Spacings
Needed for Best
Production**

Growing More Vegetables

- **Once Planted, Cover the Seed by Raking the Soil Into the Furrow and Firming It Over the Seed**

Growing More Vegetables

- **Be Sure to Mark the Row With the Variety Planted. If the Soil Is Dry, Water Lightly Improve Seed Germination**

Growing More Vegetables

- **Broadcast Planting Is an Easy Method for Single Crop Beds or Broad Strips of Plants**

Growing More Vegetables

- **Fast-growing Vegetables That Can Tolerate Some Shade Work Especially Well. These Would Include Beets, Radishes, Carrots, and Leafy Greens**



Growing More Vegetables

- **After Preparing the Bed, Seeds Are Evenly Distributed Over the Surface and Are Raked Into the Soil**

Growing More Vegetables

- **Raking the Soil Works Well for Small Seeds That Need A Shallow Planting Depth. In the Spring, When Temperatures Are Cool and the Soil Moist, Germination Is Not a Problem. During the Heat of Summer, Frequent Light Irrigation May Be Needed**

Growing More Vegetables

- **Hill Planting Is a Good Way to Space for Melons, Cucumbers, and Squash. Several Seeds Are Sown at Each Planting Site With Hills Located Several Feet Apart. After Emergence, Hills Are Thinned to 2 or 3 Plants**

Growing More Vegetables

- **Fertilizer and Manure Are Often Blended Together With the Garden Soil Before Making the Hills. This Enriched Soil Favors Vigorous Plant Growth for the Heavy Feeding Cucurbits**

Growing More Vegetables

- **Intensive Plantings Are Good Methods to Maximize Land Use and Yields. Plant Seeds or Plants Closer Together So That When They Mature the Leaves Just Touch and the Entire Area Planted Is Covered by Foliage**

Growing More Vegetables

- **Planting Time Is Based on Locality, Frost-free Period, and Time to Crop Maturity. Knowing the Dates of the Last Killing Frost in the Spring and the First Killing Frost in the Fall Help to Determine When to Plant the Tender, Warm Season Vegetables**

Growing More Vegetables

- **Since the Growth Period of Vegetables Varies Greatly, Those That Require a Long Growing Season Need to Be Planted As Early As Possible. These Include Potatoes, Tomatoes, Peppers, Eggplants, and Onions**

Growing More Vegetables

- **Vegetables That Mature Rapidly Can Be Planted at Intervals During the Season to Extend Their Productive Periods. These Include Spinach, Beans, Carrots, and Radishes**

Growing More Vegetables

- **Some Seeds Are More Difficult to Establish in the Garden Than Others. Onions, Beets, and Carrots Germinate Slowly. If Soils Dry Out Rapidly, Erratic Germination and Poor Plant Stands Occur Result**

Growing More Vegetables

- **One Technique Used to Improve the Emergence of These Vegetables Is to Soak the Seeds in Water Prior to Planting Them in the Garden**

Growing More Vegetables

- **The Germination Process Is Started in Ideal Environmental Conditions and Seeds Are Almost Germinated Before Planting**

Growing More Vegetables

- **This Shortens the Time Period Needed Before Seedling Emergence but Makes the Planting Process More Difficult, Especially for Very Small Seeds. Beans, Peas, and Sweet Corn Can Be Successfully Planted by This Method**

Growing More Vegetables

- **Bed Preparation Procedures Are Similar for Both Seeded and Transplanted Vegetables. Closer Spacing May Actually Increase Total Yields While Decreasing Yield Per Plant. Intensive Plant Spacing Is Easier to Achieve With Transplants**

Growing More Vegetables

- **Yield Per Unit Area of Ground Increases and Maturity Is Concentrated. This Is Helpful When the Produce Is Grown for Freezing or Canning**

Growing More Vegetables

- **With Most Vegetables, Transplanting Has Little Long-term Detrimental Effect on Plant Performance. Tomatoes, Broccoli, Lettuce, and Celery All Transplant Easily and Grow Rapidly Once Placed in the Garden**

Growing More Vegetables

- **Beans, Sweet Corn, Squash Cucumbers and Melons Can Be Transplanted If They Are Handled With Care**

Growing More Vegetables

- **Easily Transplanted Vegetables Have Rapid Root Replacement and Slow Top Growth While Vegetables That Are Difficult to Transplant Have Rapid Top Growth and Slow Rate of Root Replacement**

Growing More Vegetables

- **Healthy, Vigorous Growing Plants With Adequate Nutrient Levels and Water During Early Growth That Are Carefully Planted to Avoid Root Damage Generally Show No Transplant Stress (Shock)**

Growing More Vegetables

- **Transplants Can Be Broken Down Into Three Groups: Bare-root, Flat-grown, or Cell-grown Plants. While Planting Methods for All Three Are Similar, Success After Planting May Vary**

Growing More Vegetables

- **In Most Cases, Total Yield Is Similar for All Three Types of Transplants but Early Yield Is Less With Those That Have the Greatest Amount of Root Damage**

Growing More Vegetables

- **Plant Size Also Influence the Transplant Performance. Most Cucurbits Suffer Less Transplant Shock If Planted When They Have 1 to 2 True Leaves. Brassicas Grow Best When They Have 4 to 6 True Leaves.**

Growing More Vegetables

- **Plant Age Has a Significant Effect on Overall Performance. Young Tomato Plants Produce the Highest Yields With a Hen Long Growing Season**

Growing More Vegetables

- **Older Plants Do Better in Short Growing Seasons Because They Set Fruit Sooner. However, Older Plants Generally Produce Lower Yields Because They Sacrifice Vegetative Growth to Supply the Developing Fruit**

Growing More Vegetables

- **Old Broccoli and Cauliflower Transplants Often Produce Very Low Yields Because the Floral Tissue (Head) Has Been Initiated Before Planting. If Stressed After Planting, Small Buttons (Heads) Form Before Sufficient Plant Growth Occurs**

Growing More Vegetables

- **Hardening Slows Plant Growth and Enables Plants to Better Withstand the Transition From Greenhouse to Field Environment**

Growing More Vegetables

- **The Need to Harden Depends on the Kind of Vegetable, the Weather, and Other Conditions Expected After Transplanting**

Growing More Vegetables

- **Hardening Is Generally Not Necessary When Transplanting During the Summer. Soils Are Warm and Air Temperatures Favorable for Rapid Growth**

Growing More Vegetables

- **Vegetables That Are Induced to Flower by Cold Temperatures Should Not Be Hardened by Exposure to Very Low Temperatures**

Growing More Vegetables

- **This Leads to Early Bolting (Going to Seed) With Cabbage, Onion, and Celery and Buttoning (Premature Head Formation) of Broccoli and Cauliflower**

Growing More Vegetables

- **Cucurbits Generally Do Not Benefit From Hardening Since Rapid, Uninterrupted Growth Is Needed**

Growing More Vegetables

- **Transplanting Depth Varies With the Vegetable. Tomatoes Can Be Planted Deeply Since They Develop Roots Out of Their Stems. Plant Cell Grown Plants Slightly Deeper Than the Root Ball to Keep the Media From Drying Out After Planting**

Growing More Vegetables

- **Transplants Do Best When Planted Late in the Day or on Cloudy Days. Some Protection Is Required If Conditions Are Extremely Dry and Hot. Water Transplants Before and After Planting**

Growing More Vegetables

- **Starter Solutions (Dilute Fertilizers) Have Readily Available Nutrients for Rapid Growth. Starter Solutions With a High Phosphorous Encourage Root Growth**